Hydraulic Monster

Kit contains:

- 2 syringes
- square of cardstock
- piece of vinyl tubing
- craft stick
- triangle support template

You will need: scissors, tape, water, and coloring supplies.

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INSTRUCTIONS

Step 1. Turn your square of cardstock into a monster head. Draw eyes. Cut in half to create the mouth—note that a zig-zag forms teeth!

Step 2. Cut out the triangle support template. Fold along the dotted lines and tape the tab to form a right triangle.

Step 3. Place your monster head, with mouth closed, face down on your work surface. Set one syringe on top as shown. Tape the bottom jaw to the barrel of the syringe.

Step 4. Connect the top of your monster head to the syringe's plunger using the triangle support. Tape one leg of the right triangle to the top of the plunger. Tape the other leg of the triangle to the monster head.

Step 5. Slide the piece of tubing onto the tip of your second syringe. Slurp up water into the syringe.

Step 6. Check that the plunger of your monster syringe is fully depressed. Then connect the loose end of the tubing to its tip. Stabilize the system by taping the support stick to the barrels of the two syringes.

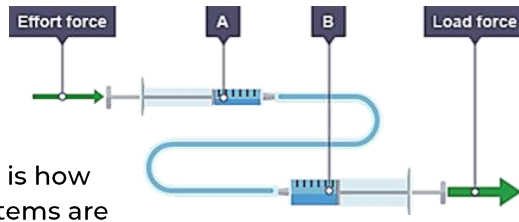
Say Ahhhhh!

To make your monster open its mouth, depress the bottom syringe. This moves water into the top syringe, pushing up the plunger connected to the top of the monster's head. Pulling the plunger on the bottom syringe closes the monster's mouth. Hurray for hydraulics!

How Do Hydraulic Systems Work?

A **hydraulic system** is operated by liquid moving in a confined space under pressure. The particles in liquids are really close together, so you can't squish or compact them. This means that if you apply force to any part of a liquid in an enclosed space, pressure is transmitted to the rest of the liquid.

The syringes in your hydraulic monster are the same size: depressing one full syringe causes the other's plunger to stick out all the way. However, a smaller force can be multiplied into a bigger one. For instance, a full little syringe can power a bigger syringe—the bigger plunger just wouldn't move as far. This principle is how hydraulic systems are able to power lots of everyday machinery, from car brakes to lifting equiment.



Source: hydraulicsonline.com/hydraulics-for-beginners/